

REMARKS

This is in response to the final Office Action of October 22, 2003. With this response, claims 1, 2, 10, 14, 17 and 20 are amended and all pending claims 1-22 are presented for reconsideration and favorable action.

Applicant notes that the present application is a continuation-in-part of U.S. Patent Applications Serial Nos. 09/789,124, now U.S. Patent No. 6,546,172; Serial No. 09/789,125, now U.S. Patent No. 6,546,173; Serial No. 09/789,185, now U.S. Patent No. 6,443,631; and Serial No. 09/789,317, now U.S. Patent No. 6,590,658. For the Examiner's reference, copies of the Office Actions in connection with these parent applications are enclosed at Appendices A, B, C and D.

In the Office Action, the Examiner rejected claims 1-8, 14, 21 and 22 under 35 U.S.C. § 103 based on Ackerman et al. in view of Aoyagi et al. Claims 9-12 and 15-20 were rejected under 35 U.S.C. § 103 as above and further in view of Setoguchi U.S. Patent No. 6,467,972. Finally, claim 13 was rejected under 35 U.S.C. § 103 based upon Ackerman et al., Aoyagi et al., Setoguchi and further in view of Green et al. It is believed that independent claims 1, 10 and 14 are patentably distinct from these references.

First, Applicant notes that the invention set forth in the pending claims includes at least three separate elements: a first standardized optical module, a second standardized optical module and a fixed reference to which these two optical modules are mounted. The primary references used by the Examiner do not show such a configuration. Aoyagi shows a submount 20 in Figure 5B and a laser chip shown in Figure 5A. These two elements are mounted together using the alignment marks as illustrated in Figure 5C. Similarly, Ackerman et al. shows two components a single monolithic component (which includes elements 11 and 12 and carries wave guide 13) and a laser 24. These configurations

do not show two optical modules mounted to a fixed reference in the context of the claims. Further, these references do not show a standardized optical module in the context of the claims which is mounted to a fixed reference. Therefore, the rejection must be withdrawn.

Further, Applicant notes that the configurations of Ackerman and Aoyagi teach away from the present invention. Both of these references teach the direction aligning of two elements together in which the two components are aligned, for example using the alignment marks shown by Aoyagi reference. The references do not use a third fixed reference. There is no suggestion to have two separate standardized optical components which are pre-aligned, and then brought into position to optically interact with one another by mounting them at predetermined locations on a fixed reference. For this additional reason, the rejection should be withdrawn.

The independent claims have also been amended to clarify that the reference standard and reference frame comprise an external reference standard and external reference frame. This also is not shown and the rejection should be withdrawn.

In paragraph 7 of the Office Action, the Examiner notes that the use of a standardized optical module would "be desirable to facilitate capability between optical devices." Applicant believes that the Examiner is correct in that this is desirable. However, Applicant notes that the primary references, in fact, do not recognize this desirability and the rejection should be withdrawn. It is only with hindsight that this desirability becomes apparent. Further, the invention is set forth in the claims including the two standardized modules which are prealigned, and the fixed reference substrate to which the two standardized modules are mounted at predetermined locations, provides a structure and method for achieving this desirable

result which is not shown or suggested by the references. For these additional reasons the rejection should be withdrawn.

Regarding paragraph 8, it is believed that the claimed external reference frame is not shown.

Regarding paragraph 9, the Examiner asserts that a skilled artist in the art would have been expected to know that in order to provide coupling between optical devices, location would need to be determined. That paragraph further states that a skilled artist would have been expected to know that determining a location on a fixed reference would still be necessary even before adjusting the components in order to obtain an alignment. However, it does not necessarily follow that, "a skilled artisan in the art would have been expected to know that determining a location of fixed reference would still be necessary even before adjusting the components in order to obtain alignment." For example, as illustrated in both Ackerman and Aoyagi, the actual adjustment and positioning of a component can be performed once it is mounted to a fixed reference. Therefore, the rejection should be withdrawn. Further, the two primary references do not show such a fixed reference.

For the above reasons, the rejections to the independent claims should be withdrawn. Additionally, the dependent claims when read in context with the independent claims, set forth the invention in terms which are not shown or suggested by the references. Therefore, the dependent claims are also believed to be patentably distinct.

Consideration and favorable action are respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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